WHAT IS CLAIMED IS:

1. A surface acoustic wave device comprising:

a first longitudinally coupled resonator type surface acoustic wave element including at least three interdigital transducers arranged along the direction of transmission of a surface acoustic wave, each of the interdigital transducers being provided with a plurality of electrode fingers; and

a second longitudinally coupled resonator type surface acoustic wave element including at least three interdigital transducers arranged along the direction of transmission of the surface acoustic wave, each of the interdigital transducers of the second longitudinally coupled resonator type surface acoustic wave element being provided with a plurality of electrode fingers, the first longitudinally coupled resonator type surface acoustic wave element and the second longitudinally coupled resonator type surface acoustic wave element being cascaded to each other and being arranged on a piezoelectric substrate; wherein

at least one of the interdigital transducers of each of the first and second longitudinally coupled resonator type surface acoustic wave elements has a narrow pitch electrode finger portion located near the adjacent interdigital transducer, the pitch of the electrode fingers of the narrow pitch electrode finger portion being smaller than the pitch of the other electrode fingers; and

the number and the pitch of the electrode fingers of the narrow pitch electrode finger portion of the first longitudinally coupled resonator type surface acoustic wave element are different from the number and the pitch of the electrode fingers of the narrow pitch electrode finger portion of the second longitudinally coupled resonator type surface acoustic wave element.

2. A surface acoustic wave device comprising:

a first longitudinally coupled resonator type surface acoustic wave element including at least three interdigital transducers arranged along the direction of

transmission of a surface acoustic wave, each of the interdigital transducers being provided with a plurality of electrode fingers; and

a second longitudinally coupled resonator type surface acoustic wave element including at least three interdigital transducers arranged along the direction of transmission of the surface acoustic wave, each of the interdigital transducers of the second longitudinally coupled resonator type surface acoustic wave element being provided with a plurality of electrode fingers, the first longitudinally coupled resonator type surface acoustic wave element and the second longitudinally coupled resonator type surface acoustic wave element being cascaded to each other and being arranged on a piezoelectric substrate; wherein

at least one of the interdigital transducers of each of the first and second longitudinally coupled resonator type surface acoustic wave elements has a narrow pitch electrode finger portion located near the adjacent interdigital transducer, the pitch of the electrode fingers of the narrow pitch electrode finger portion being smaller than the pitch of the other electrode fingers; and

N1 is not equal to N2, where N1 represents the number of the electrode fingers of the narrow pitch electrode finger portion of the first longitudinally coupled resonator type surface acoustic wave element and N2 represents the number of the electrode fingers of the narrow pitch electrode finger portion of the second longitudinally coupled resonator type surface acoustic wave element.

3. A surface acoustic wave device comprising:

a first longitudinally coupled resonator type surface acoustic wave element including at least three interdigital transducers arranged along the direction of transmission of a surface acoustic wave, each of the interdigital transducers being provided with a plurality of electrode fingers; and

a second longitudinally coupled resonator type surface acoustic wave element including at least three interdigital transducers arranged along the direction of transmission of the surface acoustic wave, each of the interdigital transducers of the

second longitudinally coupled resonator type surface acoustic wave element being provided with a plurality of electrode fingers, the first longitudinally coupled resonator type surface acoustic wave element and the second longitudinally coupled resonator type surface acoustic wave element being cascaded to each other and being arranged on a piezoelectric substrate; wherein

at least one of the interdigital transducers of each of the first and second longitudinally coupled resonator type surface acoustic wave elements has a narrow pitch electrode finger portion located near the adjacent interdigital transducer, the pitch of the electrode fingers of the narrow pitch electrode finger portion being smaller than the pitch of the other electrode fingers; and

wherein P1 is not equal to P2, where P1 represents the pitch of the electrode fingers of the narrow pitch electrode finger portion of the first longitudinally coupled resonator type surface acoustic wave element and P2 represents the pitch of the electrode fingers of the narrow pitch electrode finger portion of the second longitudinally coupled resonator type surface acoustic wave element.

4. A surface acoustic wave device according to Claim 1, wherein each of the first and second longitudinally coupled resonator type surface acoustic wave elements includes three interdigital transducers, and the number of the electrode fingers of a central interdigital transducer of the first longitudinally coupled resonator type surface acoustic wave element is different from the number of the electrode fingers of a central interdigital transducer of the second longitudinally coupled resonator type surface acoustic wave element.

5. A surface acoustic wave device according to Claim 2, wherein each of the first and second longitudinally coupled resonator type surface acoustic wave elements includes three interdigital transducers, and the number of the electrode fingers of a central interdigital transducer of the first longitudinally coupled resonator type surface acoustic wave element is different from the number of the electrode fingers of a central

interdigital transducer of the second longitudinally coupled resonator type surface acoustic wave element.

6. A surface acoustic wave device according to Claim 3, wherein each of the first and second longitudinally coupled resonator type surface acoustic wave elements includes three interdigital transducers, and the number of the electrode fingers of a central interdigital transducer of the first longitudinally coupled resonator type surface acoustic wave element is different from the number of the electrode fingers of a central interdigital transducer of the second longitudinally coupled resonator type surface acoustic wave element.

7. A surface acoustic wave device according to Claim 1, wherein at least one surface acoustic wave resonator is cascaded between the first longitudinally coupled resonator type surface acoustic wave element and the second longitudinally coupled resonator type surface acoustic wave element.

8. A surface acoustic wave device according to Claim 2, wherein at least one surface acoustic wave resonator is cascaded between the first longitudinally coupled resonator type surface acoustic wave element and the second longitudinally coupled resonator type surface acoustic wave element.

9. A surface acoustic wave device according to Claim 3, wherein at least one surface acoustic wave resonator is cascaded between the first longitudinally coupled resonator type surface acoustic wave element and the second longitudinally coupled resonator type surface acoustic wave element.

10. A surface acoustic wave device comprising:

a first surface acoustic wave filter element including a first longitudinally coupled resonator type surface acoustic wave element provided with at least three interdigital transducers arranged along the direction of transmission of a surface acoustic wave, each of the interdigital transducers being provided with a plurality of

electrode fingers, and a second longitudinally coupled resonator type surface acoustic wave element provided with at least three interdigital transducers arranged along the direction of transmission of the surface acoustic wave, each of the interdigital transducers being provided with a plurality of electrode fingers, the first longitudinally coupled resonator type surface acoustic wave element and the second longitudinally coupled resonator type surface acoustic wave element being cascaded to each other and being arranged on a piezoelectric substrate; and

a second surface acoustic wave filter element including a third longitudinally coupled resonator type surface acoustic wave element provided with at least three interdigital transducers arranged along the direction of transmission of the surface acoustic wave, each of the interdigital transducers being provided with a plurality of electrode fingers, and a fourth longitudinally coupled resonator type surface acoustic wave element provided with at least three interdigital transducers arranged along the direction of transmission of the surface acoustic wave, each of the interdigital transducers being provided with a plurality of electrode fingers, the third longitudinally coupled resonator type surface acoustic wave element and the fourth longitudinally coupled resonator type surface acoustic wave element being cascaded to each other and being arranged on the piezoelectric substrate, the phase of input and output signals of the second surface acoustic wave filter element being approximately 180 degrees different from the phase of input and output signals of the first surface acoustic wave filter element, one terminal of the first surface acoustic wave filter element and one terminal of the second surface acoustic wave filter element being electrically connected in parallel, the other terminal of the first surface acoustic wave filter element and the other terminal of the second surface acoustic wave filter element being electrically connected in series; wherein

at least one of the interdigital transducers of each of the first, second, third, and fourth longitudinally coupled resonator type surface acoustic wave elements has a narrow pitch electrode finger portion located near the adjacent interdigital transducer,

the pitch of the electrode fingers of the narrow pitch electrode finger portion being smaller than the pitch of the other electrode fingers;

the number and the pitch of the electrode fingers of the narrow pitch electrode finger portion of the first longitudinally coupled resonator type surface acoustic wave element are different from the number and the pitch of the electrode fingers of the narrow pitch electrode finger portion of the second longitudinally coupled resonator type surface acoustic wave element; and

the number and the pitch of the electrode fingers of the narrow pitch electrode finger portion of the third longitudinally coupled resonator type surface acoustic wave element are different from the number and the pitch of the electrode fingers of the narrow pitch electrode finger portion of the fourth longitudinally coupled resonator type surface acoustic wave element.

11. A surface acoustic wave device comprising:

a first surface acoustic wave filter element including a first longitudinally coupled resonator type surface acoustic wave element provided with at least three interdigital transducers arranged along the direction of transmission of a surface acoustic wave, each of the interdigital transducers being provided with a plurality of electrode fingers, and a second longitudinally coupled resonator type surface acoustic wave element provided with at least three interdigital transducers arranged along the direction of transmission of the surface acoustic wave, each of the interdigital transducers being provided with a plurality of electrode fingers, the first longitudinally coupled resonator type surface acoustic wave element and the second longitudinally coupled resonator type surface acoustic wave element being cascaded to each other and being arranged on a piezoelectric substrate; and

a second surface acoustic wave filter element including a third longitudinally coupled resonator type surface acoustic wave element provided with at least three interdigital transducers arranged along the direction of transmission of the surface acoustic wave, each of the interdigital transducers being provided with a

plurality of electrode fingers, and a fourth longitudinally coupled resonator type surface acoustic wave element provided with at least three interdigital transducers arranged along the direction of transmission of the surface acoustic wave, each of the interdigital transducers being provided with a plurality of electrode fingers, the third longitudinally coupled resonator type surface acoustic wave element and the fourth longitudinally coupled resonator type surface acoustic wave element being cascaded to each other and being arranged on the piezoelectric substrate, the phase of input and output signals of the second surface acoustic wave filter element being approximately 180 degrees different from the phase of input and output signals of the first surface acoustic wave filter element, one terminal of the first surface acoustic wave filter element and one terminal of the second surface acoustic wave filter element being electrically connected in parallel, the other terminal of the first surface acoustic wave filter element and the other terminal of the second surface acoustic wave filter element being electrically connected in series; wherein

at least one of the interdigital transducers of each of the first, second, third, and fourth longitudinally coupled resonator type surface acoustic wave elements has a narrow pitch electrode finger portion near the adjacent interdigital transducer, the pitch of the electrode fingers of the narrow pitch electrode finger portion being smaller than the pitch of the other electrode fingers;

the number of the electrode fingers of the narrow pitch electrode finger portion of the first longitudinally coupled resonator type surface acoustic wave element is different from the number of the electrode fingers of the narrow pitch electrode finger portion of the second longitudinally coupled resonator type surface acoustic wave element; and

wherein the number of the electrode fingers of the narrow pitch electrode finger portion of the third longitudinally coupled resonator type surface acoustic wave element is different from the number of the electrode fingers of the narrow pitch electrode finger portion of the fourth longitudinally coupled resonator type surface acoustic wave element.

12. A surface acoustic wave device comprising:

a first surface acoustic wave filter element including a first longitudinally coupled resonator type surface acoustic wave element provided with at least three interdigital transducers arranged along the direction of transmission of a surface acoustic wave, each of the interdigital transducers being provided with a plurality of electrode fingers, and a second longitudinally coupled resonator type surface acoustic wave element provided with at least three interdigital transducers arranged along the direction of transmission of the surface acoustic wave, each of the interdigital transducers being provided with a plurality of electrode fingers, the first longitudinally coupled resonator type surface acoustic wave element and the second longitudinally coupled resonator type surface acoustic wave element being cascaded to each other and being arranged on a piezoelectric substrate; and

a second surface acoustic wave filter element including a third longitudinally coupled resonator type surface acoustic wave element provided with at least three interdigital transducers arranged along the direction of transmission of the surface acoustic wave, each of the interdigital transducers being provided with a plurality of electrode fingers, and a fourth longitudinally coupled resonator type surface acoustic wave element provided with at least three interdigital transducers arranged along the direction of transmission of the surface acoustic wave, each of the interdigital transducers being provided with a plurality of electrode fingers, the third longitudinally coupled resonator type surface acoustic wave element and the fourth longitudinally coupled resonator type surface acoustic wave element being cascaded to each other and being arranged on the piezoelectric substrate, the phase of input and output signals of the second surface acoustic wave filter element being approximately 180 degrees different from the phase of input and output signals of the first surface acoustic wave filter element, one terminal of the first surface acoustic wave filter element and one terminal of the second surface acoustic wave filter element being electrically connected in parallel, the other terminal of the first surface acoustic wave filter element and the

other terminal of the second surface acoustic wave filter element being electrically connected in series; wherein

at least one of the interdigital transducers of each of the first, second, third, and fourth longitudinally coupled resonator type surface acoustic wave elements has a narrow pitch electrode finger portion located near the adjacent interdigital transducer, the pitch of the electrode fingers of the narrow pitch electrode finger portion being smaller than the pitch of the other electrode fingers;

the pitch of the electrode fingers of the narrow pitch electrode finger portion of the first longitudinally coupled resonator type surface acoustic wave element is different from the pitch of the electrode fingers of the narrow pitch electrode finger portion of the second longitudinally coupled resonator type surface acoustic wave element; and

the pitch of the electrode fingers of the narrow pitch electrode finger portion of the third longitudinally coupled resonator type surface acoustic wave element is different from the pitch of the electrode fingers of the narrow pitch electrode finger portion of the fourth longitudinally coupled resonator type surface acoustic wave element.

13. A surface acoustic wave device according to Claim 10, wherein each of the first, second, third, and fourth longitudinally coupled resonator type surface acoustic wave elements includes three interdigital transducers, the number of the electrode fingers of a central interdigital transducer of the first longitudinally coupled resonator type surface acoustic wave element is different from the number of the electrode fingers of a central interdigital transducer of the second longitudinally coupled resonator type surface acoustic wave element, and the number of the electrode fingers of the central interdigital transducer of the third longitudinally coupled resonator type surface acoustic wave element is different from the number of the electrode fingers of the central interdigital transducer of the fourth longitudinally coupled resonator type surface acoustic wave element.

14. A surface acoustic wave device according to Claim 11, wherein each of the first, second, third, and fourth longitudinally coupled resonator type surface acoustic wave elements includes three interdigital transducers, the number of the electrode fingers of a central interdigital transducer of the first longitudinally coupled resonator type surface acoustic wave element is different from the number of the electrode fingers of a central interdigital transducer of the second longitudinally coupled resonator type surface acoustic wave element, and the number of the electrode fingers of the central interdigital transducer of the third longitudinally coupled resonator type surface acoustic wave element is different from the number of the electrode fingers of the central interdigital transducer of the fourth longitudinally coupled resonator type surface acoustic wave element.

15. A surface acoustic wave device according to Claim 12, wherein each of the first, second, third, and fourth longitudinally coupled resonator type surface acoustic wave elements includes three interdigital transducers, the number of the electrode fingers of a central interdigital transducer of the first longitudinally coupled resonator type surface acoustic wave element is different from the number of the electrode fingers of a central interdigital transducer of the second longitudinally coupled resonator type surface acoustic wave element, and the number of the electrode fingers of the central interdigital transducer of the third longitudinally coupled resonator type surface acoustic wave element is different from the number of the electrode fingers of the central interdigital transducer of the fourth longitudinally coupled resonator type surface acoustic wave element.

16. A surface acoustic wave device according to Claim 10, wherein at least one surface acoustic wave resonator is cascaded between the first longitudinally coupled resonator type surface acoustic wave element and the second longitudinally coupled resonator type surface acoustic wave element and between the third longitudinally coupled resonator type surface acoustic wave element and the fourth longitudinally coupled resonator type surface acoustic wave element.

17. A surface acoustic wave device according to Claim 11, wherein at least one surface acoustic wave resonator is cascaded between the first longitudinally coupled resonator type surface acoustic wave element and the second longitudinally coupled resonator type surface acoustic wave element and between the third longitudinally coupled resonator type surface acoustic wave element and the fourth longitudinally coupled resonator type surface acoustic wave element.

18. A surface acoustic wave device according to Claim 12, wherein at least one surface acoustic wave resonator is cascaded between the first longitudinally coupled resonator type surface acoustic wave element and the second longitudinally coupled resonator type surface acoustic wave element and between the third longitudinally coupled resonator type surface acoustic wave element and the fourth longitudinally coupled resonator type surface acoustic wave element.

19. A surface acoustic wave device according to Claim 1, wherein the ratio of input impedance to output impedance is about 1:2 or about 1:3 or the ratio of output impedance to input impedance is about 1:2 or about 1:3.

20. A surface acoustic wave device according to Claim 2, wherein the ratio of input impedance to output impedance is about 1:2 or about 1:3 or the ratio of output impedance to input impedance is about 1:2 or about 1:3.

21. A surface acoustic wave device according to Claim 3, wherein the ratio of input impedance to output impedance is about 1:2 or about 1:3 or the ratio of output impedance to input impedance is about 1:2 or about 1:3.

22. A surface acoustic wave device according to Claim 10, wherein the ratio of input impedance to output impedance is about 1:2 or about 1:3 or the ratio of output impedance to input impedance is about 1:2 or about 1:3.

23. A surface acoustic wave device according to Claim 11, wherein the ratio of input impedance to output impedance is about 1:2 or about 1:3 or the ratio of output impedance to input impedance is about 1:2 or about 1:3.

24. A surface acoustic wave device according to Claim 12, wherein the ratio of input impedance to output impedance is about 1:2 or about 1:3 or the ratio of output impedance to input impedance is about 1:2 or about 1:3.

25. A surface acoustic wave device according to Claim 1, wherein a balanced-unbalanced conversion function is provided.

26. A surface acoustic wave device according to Claim 2, wherein a balanced-unbalanced conversion function is provided.

27. A surface acoustic wave device according to Claim 3, wherein a balanced-unbalanced conversion function is provided.

28. A surface acoustic wave device according to Claim 10, wherein a balanced-unbalanced conversion function is provided.

29. A surface acoustic wave device according to Claim 11, wherein a balanced-unbalanced conversion function is provided.

30. A surface acoustic wave device according to Claim 12, wherein a balanced-unbalanced conversion function is provided.

31. A communication apparatus comprising the surface acoustic wave device as set forth in Claim 1.

32. A communication apparatus comprising the surface acoustic wave device as set forth in Claim 2.

33. A communication apparatus comprising the surface acoustic wave device as set forth in Claim 3.

34. A communication apparatus comprising the surface acoustic wave device as set forth in Claim 10.

35. A communication apparatus comprising the surface acoustic wave device as set forth in Claim 11.

36. A communication apparatus comprising the surface acoustic wave device as set forth in Claim 12.